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(54) Title: METHODS AND SYSTEMS FOR ANNOTATING ELECTRONIC PAGES ON DISPLAYS OF NETWORKED COMPUTERS
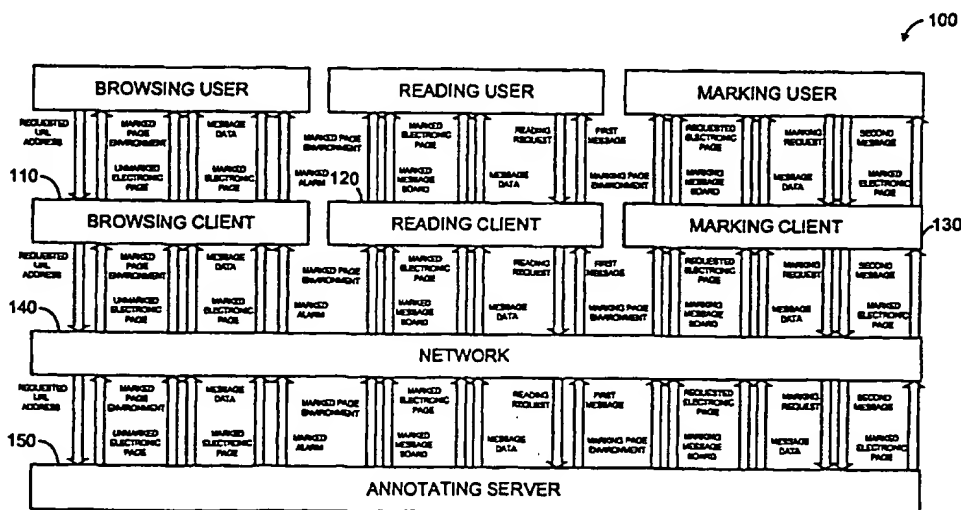
(57) Abstract

The present invention provides methods and systems for maintaining information about electronic sites. In an exemplary embodiment, the present invention provides a system for annotating an electronic page on a display of a networked computer. The annotating server (150) adds an annotation to the electronic page in the form of a user locatable mark. The system for annotating the electronic page on the display of a computer includes a browsing client (110) configured to browse the electronic page, a reading client (120) configured to read a posted electronic message associated with the electronic page, and a marking client (130) configured to mark the electronic page with a new electronic message. In another exemplary configuration, the annotating system is integrated with an e–mail system.

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METHODS AND SYSTEMS FOR ANNOTATING ELECTRONIC PAGES ON DISPLAYS OF NETWORKED COMPUTERS

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation-in-part application of U.S. Patent Application Serial No. 09/289,549, filed April 9, 1999, and U.S. Patent Application Serial No. 09/289,313, filed April 9, 1999, the complete disclosures of which are incorporated herein by reference.

BACKGROUND OF THE INVENTION

The present invention relates generally to electronic pages on displays of networked computers. More particularly, the present invention provides methods and systems for annotating an electronic page, such as a Web Page. The computer can be an individual computer or a network of computers. The network of computers can be a local area network, a wide area network, an intranet, an extranet, an internet, or the Internet.

The Internet is generally an international "super-network" connecting millions of individual computer networks and computing devices. The Internet is not a single entity. It is a highly diffuse and complex system over which no entity has complete authority or control. Although the Internet is now widely known for one of it's ways of presenting information using the World Wide Web (herein "Web"), the Internet supports many other forms of communication. The Internet allows one-to-one communication via electronic mail, which is commonly known as "e-mail." In addition, one person can reach many other users through bulletin board services, newsgroups and many other Internet forms of communication. Generally all of these forms of Internet communication depend on the use of domain names to locate specific computers and networks on the Internet.

One of the most important aspects of the Internet is the Web. Unlike earlier forms of Internet communication formats, the Web is generally easy to use for people with almost no experience with computers. Information on the Web can be presented on "pages" of graphics and text that contain "links" to other pages either within the same set of data files (herein "Web site") or within data files located on other

computer networks. Users often access information on the Web using "browser" programs such as those pioneered by Netscape Communications Corp. of California. The browser programs process information from Web sites and display the information using graphics, text, sound, and in some cases animation. Because of these aspects, the Web

5   has become a popular medium for advertising and for direct consumer access to goods and services. At the same time, the Web is also an important medium for non-commercial communications. The Web has made it easier for many individuals and small organizations to publish information to the general public. Publication on the Web generally involves placing a formatted file on a host computer or the like.

10   Web pages are often connected to each other for cross-referencing purposes using "links." In general, a link is typically an image or a short section of text referring to another document on the Web. The link is often highlighted for easy referencing by the user. A user interested in reviewing the referenced document selects the link by "clicking" on it, which causes the document to be displayed along with a new

15   set of links. While the linked structure of the Web is suitable to allow users to browse related Web sites, it is often poorly suited for finding a single Web site. In most cases, a single Web site can be easily accessed by the user, who knows the Web site address. Here, the Web site address is entered into the browser program which prompts the Web site corresponding to the address. Alternatively, the user can rely upon "search engines"

20   available on the Web to search for key words and phrases associated with a desired Web site, if the address is not known. These search engines include those made by Yahoo! and others.

                    With the increasing number of Web sites, users are having difficulty finding a desired Web site. Search engines often uncover thousands if not tens of

25   thousands of "hits" or potentially useful sites based upon key words and search phrases. Additionally, once the desirable site is found the user must often "book mark" its location. A book mark can be used to maintain a list of desirable sites, but cannot be used to store notes and the like. Accordingly, users of the Internet often print out pages of desirable sites, which often consumes much paper, time, and other resources.

30   For the foregoing reasons, it is seen that a technique for identifying and maintaining information about Web sites is highly desirable.

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SUMMARY OF THE INVENTION

The present invention provides methods and systems for maintaining information about electronic sites. In an exemplary embodiment, the present invention provides a system for integrating e-mail and annotating an electronic page on a display of

5   a computer. The computer can be an individual computer or a network of computers. The network of computers can be a local area network, a wide area network, an intranet, an extranet, an internet, or the Internet. The annotating adds an annotation to the electronic page, and the annotation is indicated by a user locatable mark, which is placed on the display. Here, a user accesses the annotation by way of the user locatable mark.

10   In one aspect, the present invention provides a system for annotating an electronic page on a display of a computer. The system includes a browsing module configured to browse the electronic page, a reading module configured to read a posted electronic message associated with the electronic page, and a marking module configured to mark the electronic page with a new electronic message.

15   In an exemplary embodiment, the browsing module includes a transmitting module configured to transmit a first set of information directed to the electronic page to an electronic page server, a transmitting module configured to transmit a second set of information directed to the electronic page to an annotating server, a receiving module configured to receive a third set of information directed to the electronic page from the

20   electronic page server, a receiving module configured to receive a fourth set of information associated with the electronic page from the annotating server; and a combining module configured to combine the third set of information and the fourth set of information. The third set of information can include information describing the electronic page while the fourth set of information can include user locatable marks and

25   message address information. In most configurations, a combination of the third set of information and the fourth set of information is displayed to a browsing user.

In an exemplary embodiment, the reading module includes a transmitting module configured to transmit a first set of information directed to the electronic page to an electronic page server, a transmitting module configured to transmit a second set of

30   information directed to the electronic page to an annotating server, a transmitting module configured to transmit a third set of information associated with the electronic page to the annotating server, a receiving module configured to receive a fourth set of information directed to the electronic page from the electronic page server, a receiving module

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configured to receive a fifth set of information associated with the electronic page from the annotating server, and a combining module configured to combine the fourth set of information and the fifth set of information. The third set of information can include a request for a posted electronic message associated with the electronic page, the fourth set

5   of information can include information describing the electronic page and, the fifth set of information can include user locatable marks, message address information, and the posted electronic message. A combination of the third set of information, fourth set of information, and the fifth set of information is typically displayed to a reading user.

        In an exemplary embodiment, the marking module includes a transmitting

10   module configured to transmit a first set of information directed to the electronic page to an electronic page server, a transmitting module configured to transmit a second set of information directed to the electronic page to an annotating server, a transmitting module configured to transmit a third set of information associated with the electronic page to the annotating server, a receiving module configured to receive a fourth set of information

15   directed to the electronic page from the electronic page server, a receiving module configured to receive a fifth set of information associated with the electronic page from the annotating server, and a combining module configured to combine the fourth set of information and the fifth set of information. The third set of information can include a new electronic message associated with the electronic page or a request to submit a new

20   electronic message related to the electronic page, the fourth set of information can include information describing the electronic page, and the fifth set of information can include user locatable marks, message address information, posted electronic messages, and/or the new electronic message. In most configurations, a combination of the fourth set of information and the fifth set of information is displayed to a marking user.

25   In a specific embodiment, the reading client can send a list of e-mail addresses, an original list of e-mail addresses, an annotating list of e-mail addresses to the annotating server. The annotating server can combine the original lists of e-mail addresses to create the annotating list of e-mail addresses.

        In another specific embodiment, the marking client sends a list of e-mail

30   addresses, an original list of e-mail addresses, another list of email addresses, and/or an annotating list of e-mail addresses, to the annotating server. The annotating server can combine the original lists of e-mail addresses to create the annotating list of e-mail addresses.

In another aspect, the present invention provides a system for transferring information from a first server to a client. The system comprises a combining module configured to combine information directed to an electronic page from a first server with information directed to a user locatable mark related to the electronic page from a second

5   server at a client. The information directed to the user locatable mark comprises a message from the second server.

In yet another aspect, the present invention provides a system for annotating an electronic page on a display of a networked computer. The system comprises a transmitting module configured to transmit a requested electronic page to a

10   browsing user. A first sending module is configured to send a posted electronic message related to said requested electronic page to a reading user and a marking module is configured to mark the requested electronic page with a new electronic message from a marking user.

In still another aspect, the present invention provides a system for

15   annotating an electronic page on a display of a computer. The system comprises a browsing module configured to browse the electronic page. A reading module is configured to read a posted electronic message associated with said electronic page and a marking module is configured to mark the electronic page with a new electronic message.

In another aspect, the present invention provides a method for annotating

20   an electronic page on a display of a computer. The method includes browsing the electronic page, reading a posted electronic message associated with the electronic page, and marking the electronic page with a new electronic message.

In an exemplary embodiment, browsing the electronic page includes transmitting a first set of information directed to the electronic page to an electronic page

25   server, transmitting a second set of information directed to the electronic page to an annotating server, receiving a third set of information directed to the electronic page from the electronic page server, receiving a fourth set of information associated with the electronic page from the annotating server; and combining third set of information and said fourth set of information. The first set of information can include an URL address of

30   the electronic page. The second set of information can include an URL address of the electronic page. The third set of information can include information describing the electronic page. The fourth set of information can include user locatable marks and

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message address information. A combination of at least the third set of information and the fourth set of information can be displayed to a browsing user.

In another aspect, the present invention provides a method for transferring information from a first server to a client. The method comprises combining information

5   directed to an electronic page from a first server with information directed to a user locatable mark related to the electronic page from a second server at a client. The information directed to the user locatable mark comprises a message from the second server.

In another aspect, the present invention provides a method for annotating

10   and displaying an electronic page on a display of a networked computer, the networked computer includes a user input device coupled to a processor, a display, and a memory. The method comprises receiving a requested electronic page in response to a first signal from said user input device. The requested electronic page is displayed in a first display area on said display. A posted electronic message related to said requested electronic

15   page is accepted in response to a second signal from said user input device. The posted electronic message is displayed in a second display area on the display and the requested electronic page is marked with a new electronic message in response to a third signal from said user input device.

In yet another aspect, the present invention provides a method for

20   annotating and displaying an electronic page on a display of a computer. The computer includes a user input device coupled to a processor, a display, and a memory. The method comprises displaying the electronic page in a first display area on the display in response to a first signal from said user input device. A posted electronic message associated with said electronic page is displayed in a second display area on the display in

25   response to a second signal from said user input device and the electronic page with a new electronic message is marked in response to a third signal from said user input device.

Numerous advantages or benefits are achieved by way of the present invention. The present invention provides an annotation technique, which allows a user

30   to post messages in electronic form on Web pages. These messages are transparent to most users, but are visible for users using the user locatable mark software of the present invention. The user locatable mark is placed on or near a key word or phrase for

identification purposes. The user locatable mark is easily recognizable but does not
substantially interfere with the word or phrase.

These and other advantages are described throughout the present
specification and more particularly below. The invention will be better understood by
5   reference to the following detailed description in connection with the following drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a simplified block diagram of a client server network for
annotating an electronic page on a display of a networked computer according to an
10   embodiment of the present invention;

Figs. 1A-1G are displays according to embodiments of the present
invention;

Fig. 2 is a simplified block diagram of an annotating server according to an
embodiment of the present invention;

15   Fig. 3 illustrates a simplified system block diagram of a computer system
used to execute the software of the annotating server according to an embodiment of the
present invention; and

Fig. 4 is a simplified block diagram of the Internet to which the annotating
server can attach to a user client, such as the browsing client, the reading client, or the
20   marking client according to an embodiment of the present invention;

Fig. 5 is a simplified block diagram of a client server network for
annotating an electronic page on a display of a networked computer according to an
embodiment of the present invention;

Fig. 6A is a flowchart of the annotating server when interacting with a
25   browsing user according to an embodiment of the present invention;

Fig. 6B is a flowchart of the annotating server when interacting with a
reading user according to an embodiment of the present invention; and

Fig. 6C is a flowchart of the annotating server when interacting with a
marking user according to an embodiment of the present invention.

30   DESCRIPTION OF A SPECIFIC EMBODIMENT

The present invention generally provides methods and systems for
maintaining information about electronic sites, and more particularly for adding an

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annotation to an electronic page on a display of a computer by displaying user locatable

mark(s). In one exemplary embodiment, the present invention integrates e-mail and

annotating on an electronic page on a display of a computer.

In the description that follows, the present invention is explained in

5   reference to a specific embodiment that operates on a client-server network using a

TCP/IP protocol or the like. The network can be an intranet, an extranet, or the Internet.

Therefore, the description of a specific embodiment that follows is intended to be

illustrative, but not limiting of the scope of the present invention as set forth in the claims.

Fig. 1 is a simplified block diagram of a client server network 100 for

10   annotating an electronic page on a display of a networked computer according to an

embodiment of the present invention. Client server network 100 has a browsing client

110, a reading client 120, a marking client 130, a network 140, and an annotating server

150.

Fig. 5 is a simplified block diagram of another client server network 500

15   for annotating an electronic page on a display of a networked computer. Client server

network 500 has a browsing client 110, a reading client 120, a marking client 130, a

network 140, an annotating server 150, and an electronic page server 155.

As noted above, the client server network 100 or 500 can be any suitable

network such as a wide area network or local area network such as an intranet (e.g.,

20   Ethernet, Token Ring) or a combination of a wide and local area network. Client server

network 100 or 500 can also be a world wide area network (e.g., Internet or internet),

which will be described in more detail below.

The annotating server 150 is typically a computing device with sufficient

memory to store and carry out a variety of functions described herein. In an exemplary

25   embodiment, the annotating server 150 stores information including user locatable marks,

electronic messages, and message address information and the like.

The method for annotating an electronic page on a display of a computer

can include browsing the electronic page, reading a posted electronic message associated

with the electronic page, and marking the electronic page with a new electronic message.

30   In an embodiment of the present invention, the electronic page is a requested electronic

page.

As noted, client server network 100 or 500 has a variety of clients.

Referring generally to Figs. 1 and 6A, the browsing client 110 can be any suitable client

that interacts with the annotating server 150. The browsing client 110 can transmit a first set of information directed to an electronic page (including an URL address of the electronic page), to electronic page server 155, while simultaneously transmitting a second set of information directed to the electronic page (including an URL address of the

5   electronic page), to annotating server 150. The browsing client 110 receives a third set of information directed to the electronic page from electronic page server 155 and receives a fourth set of information associated with the electronic page, including user locatable marks and message address information, from annotating server 150. The browsing client combines the third set of information and the fourth set of information and displays a

10   combination of the third set of information and the fourth set of information to a browsing user. The fourth set of information can include marked electronic page data, message board data, active web environment data, or system data.

Referring now to Figs. 1 and 6B, the reading client 120 can be any suitable client that interacts with the annotating server 150. Reading client 120 can transmit a first

15   set of information directed to an electronic page (including an URL address of the electronic page) to electronic page server 155 while simultaneously transmitting a second set of information directed to the electronic page (including an URL address of the electronic page) to annotating server 150 and transmitting a third set of information associated with the electronic page, (including a request for a posted electronic message

20   associated with the electronic page) to annotating server 150. The reading client receives a fourth set of information directed to the electronic page, including information describing the electronic page, from electronic page server 155, and receives from annotating server 150 a fifth set of information associated with the electronic page, including user locatable marks, message address information, and the posted electronic

25   message. The reading client combines the fourth set of information and the fifth set of information and displays the combination of the fourth set of information and the fifth set of information to a reading user. In some configurations, the fifth set of information includes marked electronic page data, message board data, active web environment data, system data, or the like. Further details of the fifth set of information will be described

30   throughout the present specification and more particularly below.

Referring now to Figs. 1 and 6C, the marking client 130 can be any suitable client that interacts with the annotating server 150. Marking client 130 transmits a first set of information directed to an electronic page, (including an URL address of the

electronic page), to electronic page server 155, transmits a second set of information directed to the electronic page (including an URL address of the electronic page) to annotating server 150, and transmits a third set of information associated with the electronic page, including a new electronic message associated with the electronic page,

5   to annotating server 150. The marking client 130 receives from the electronic page server 155 a fourth set of information directed to the electronic page, including information describing the electronic page and receives from the annotating server 150 and a fifth set of information associated with the electronic page, including user locatable marks, message address information, and the new electronic message. The marking client 130

10   combines the fourth set of information and the fifth set of information and displays a combination of the fourth set of information and the fifth set of information to a marking user. Typically, the third set of information includes a request to submit a new electronic message related to the electronic page, while the fifth set of information includes posted electronic messages, marked electronic page data, message board data, active web

15   environment data, system data, or the like. Figs. 6A-6C illustrate generally how some of the components interact during annotation of the electronic page.

As shown in Fig. 1A, a user of the present system can log onto the servers by way of a password protected screen 160. Here, the user enters a user name 162, such as "engsiong" and a password 164 from a display, such as the one noted above, but can be

20   others, of a browsing client. The browsing client receives the username and password and transmits them to the annotating server, which verifies the username and the password. If the username and password are verified, the annotating server allows the user to access information on the annotating server. Alternatively, if the username and password are not verified, the annotating server denies access of the information by the

25   browsing client. Once the user has accessed the annotating server, the present invention provides a variety of systems, which can be used to transfer information to one of the clients to the user.

During the transmitting of a requested electronic page to a browsing user, the browsing user and annotating server 150 can interact in various ways. Browsing

30   client 110 can run an annotating web browser, through which the browsing user inputs a requested URL address of the requested electronic page and thereby requests the requested electronic page associated with the inputted requested URL address via network 140 from annotating server 150. Annotating server 150 receives the requested

URL address from the browsing user via browsing client 110 and network 140. Then, annotating server 150 compares the requested URL address to a marked URL address.

If the requested URL address does not equal the marked URL address, browsing client 110 retrieves the requested electronic page from network 140, and, subsequently, displays the requested electronic page within the annotating web browser. The requested electronic page is an unmarked electronic page, such as the unmarked electronic page 166, illustrated in Figure 1B. When the requested URL address does not equal the marked URL address, annotating server 150 delivers an unmarked electronic page 166 corresponding to the requested URL address to the browsing user via network 140 and browsing client 110. Browsing client 110 displays the unmarked electronic page 166 to the browsing user by displaying the unmarked electronic page 166 within the annotating web browser.

If, however, the requested URL address equals the marked URL address, annotating server 150 sends a marked electronic page corresponding to the marked URL address to the browsing user via network 140 and browsing client 110. Browsing client 110 displays the marked electronic page to the browsing user by displaying the marked electronic page within the annotating web browser. In a specific embodiment, the marked electronic page includes a user locatable mark corresponding to a message associated with the marked electronic page. As merely an example, Fig. 1C shows a simplified diagram of a marked electronic page 170. As shown, the marked electronic page 170 has text corresponding to, for example, a news event 172. The news event is marked using user locatable marks 174, 176, and 178. The user locatable mark is easy to see by the user, but does not substantially interfere with the text on the electronic page.

In another embodiment, if the requested URL address equals the marked URL address, annotating server 150 transmits a marked alarm corresponding to the marked electronic page to the browsing user via network 140 and browsing client 110. Browsing client 110 displays the marked alarm to the browsing user by displaying the marked alarm within the annotating web browser. In a specific embodiment, the marked alarm displays the number of annotations associated with the marked electronic page. Browsing client 110 displays the marked alarm only for a short time interval so that the marked alarm occupies minimal screen space on the display of browsing client 110 and only for a short time interval. In one embodiment, the short time interval can be a few

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seconds such as ten seconds or less or seven seconds or less or five seconds or less or four seconds or less or three seconds or less.

The marked electronic page can include marked electronic page data. The marked electronic page data includes the URL of the marked electronic page or the

5   selected text from the marked electronic page corresponding to messages and corresponding to the user locatable marks or header information corresponding to the user. The header information includes the user's user identification and group identification. The browsing client 110 retrieves the requested electronic page through network 140, and, subsequently, displays the requested electronic page within the

10 annotating web browser. The requested electronic page, initially, is an unmarked electronic page, such as the unmarked electronic page 166. However, browsing client 110 then refreshes its display by using the marked electronic page data to transform the unmarked electronic page 166 into a marked electronic page 170, with user locatable marks.

15   If the requested URL address equals the marked URL address, annotating server 150 sends the marked electronic page for display in a page environment to the browsing user via network 140 and browsing client 110. Browsing client 110 displays the marked electronic page to the browsing user by displaying the marked electronic page in the page environment within the annotating web browser. In another embodiment, if

20 the requested URL address equals the marked URL address and if the browsing user clicks on the marked alarm, annotating server 150 sends the marked electronic page for display in a page environment to the browsing user via network 140 and browsing client 110. Browsing client 110 displays the marked electronic page to the browsing user by displaying the marked electronic page in the page environment within the annotating web

25 browser.

Alternatively, if the requested URL address equals the marked URL address and if the browsing user clicks on the marked alarm, annotating server 150 receives a browsing request for a marked page environment corresponding to the marked electronic page from the browsing user via browsing client 110 and network 140. Then,

30 annotating server 150 transmits the marked page environment to the browsing user via network 140 and browsing client 110. Next, annotating server 150 sends the marked electronic page for display in the marked page environment to the browsing user via network 140 and browsing client 110. Browsing client 110 displays the marked

electronic page to the browsing user by displaying the marked electronic page in the marked page environment within the annotating web browser.

The marked electronic page can also include marked electronic page data. The marked electronic page data includes the URL of the marked electronic page or the
5   selected text from the marked electronic page corresponding to messages and the user locatable marks or header information corresponding to the user. The header information can include the user's user identification and group identification. The browsing client 110 retrieves the requested electronic page from network 140, and, subsequently, displays the requested electronic page within the annotating web browser. The requested
10   electronic page, initially, is an unmarked electronic page, such as the unmarked electronic page 166. However, browsing client 110 then refreshes its display by using the marked electronic page data to transform the unmarked electronic page 166 into a marked electronic page 170, with user locatable marks.

In a further alternative, if the requested URL address equals the marked
15   URL address, annotating server 150 sends message board data corresponding to the marked electronic page for display in a message board to the browsing user via network 140 and browsing client 110. Browsing client 110 displays the message board data to the browsing user by displaying the message board data in the message board within the .annotating web browser. In another embodiment, if the requested URL address equals
20   the marked URL address and if the browsing user clicks on the marked alarm, annotating server 150 sends message board data corresponding to the marked electronic page for display in a message board to the browsing user via network 140 and browsing client 110. Browsing client 110 displays the message board data to the browsing user by displaying the message board data in the message board within the annotating web browser.

25   In still another embodiment, if the requested URL address equals the marked URL address and if the browsing user clicks on the marked alarm, annotating server 150 receives a browsing request for a marked message board corresponding to the marked electronic page from the browsing user via browsing client 110 and network 140. Then, annotating server 150 transmits the marked message board to the browsing user via
30   browsing network 140 and browsing client 110. Next, annotating server 150 sends message board data corresponding to the marked electronic page for display in the marked message board to the browsing user via network 140 and browsing client 110.

Browsing client 110 displays the message board data to the browsing user by displaying the message board data in the marked message board within the annotating web browser.

The message board data can include a message entry for each message associated with the marked electronic page or a message title and a message author (both
5   corresponding to a message associated with the marked electronic page).

As merely an example, Fig. 1D is a simplified diagram of displayed message board data according to embodiments of the present invention. Fig. 1D shows a page environment 180, a message board 182, a system board 183, and an active web environment 184. Page environment 180 includes a marked electronic page 181, which
10   also has user locatable marks 176 and 178. Message board 182 has a message entry 185, including a message title 186 and a message author 187.

Annotating server 150 sends a general group of each message associated with the marked electronic page for display in the message board 182 to the browsing user via network 140 and browsing client 110, also shown in Fig. 1D. For example, a
15   general group would be "Personal" 188. In another embodiment, annotation server 150 sends a message group of each message associated with the marked electronic page for display in the marked message board to the browsing user via network 140 and browsing client 110. For example, a message group would be "Culture_and_Social_Affairs" 189. Other groups can also be presented and are shown, depending upon the embodiment. The
20   general group of each message can be displayed in a separate window from the marked electronic page, which shows the text.

In a further embodiment, if the requested URL address equals the marked URL address, annotating server 150 sends active web environment data to the browsing user via network 140 and browsing client 110, for display in the annotating web browser.
25   Browsing client 110 displays the active web environment data to the browsing user by displaying the marked active web environment data in an active web environment within the annotating web browser. In another embodiment, if the requested URL address equals the marked URL address and if the browsing user clicks on the marked alarm, annotating server 150 sends active web environment data to the browsing user via
30   network 140 and browsing client 110, for display in the annotating web browser. Browsing client 110 displays the active web environment data to the browsing user by displaying the marked active web environment data in an active web environment within the annotating web browser.

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In still another embodiment, if the browsing user clicks on the marked alarm, annotating server 150 receives a browsing request for a marked active web environment 330 corresponding to the marked electronic page from the browsing user via browsing client 110 and network 140. Then, annotating server 150 sends the marked

5   active web environment 330 to the browsing user via network 140 and browsing client 110, for display in the annotating web browser. Browsing client 110 displays the marked active web environment to the browsing user by displaying the marked active web environment within the annotating web browser. The active web environment data can include advertising data corresponding to the requested electronic page, or the like.

10   In yet another embodiment, if the requested URL address equals the marked URL address, annotating server 150 sends system data to the browsing user via network 140 and browsing client 110, for display in the annotating web browser. Browsing client 110 displays the system data to the browsing user by displaying the system data in a system board within the annotating web browser. In another

15   embodiment, if the requested URL address equals the marked URL address and if the browsing user clicks on the marked alarm, annotating server 150 sends system data to the browsing user via network 140 and browsing client 110, for display in the annotating web browser. Browsing client 110 displays the system data to the browsing user by displaying the system data in a system board within the annotating web browser

20   In a further embodiment, if the browsing user clicks on the marked alarm, annotating server 150 receives a browsing request for a marked system board corresponding to the marked electronic page from the browsing user via browsing client 110 and network 140. Then, annotating server 150 sends the marked system board to the browsing user via network 140 and browsing client 110, for display in the annotating web

25   browser. Browsing client 110 displays the system board to the browsing user by displaying the system board within the annotating web browser. The system data can include personal updates for a user, useful links to certain Web sites, an indication that annotating server 150 is busy, an indication that the client, browsing client 110, reading client 120, or marking client 130, is busy, or the like.

30   The above description with regard to transmitting the requested electronic page to a browsing user is merely an example in terms of specific hardware and software. It would be recognized that the above can be combined with any of the embodiments

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described herein as well as others. Accordingly, the above description shown not unduly
limit the scope of the claims herein.

During the sending of a posted electronic message to a reading user, the
reading user and annotating server 150 can interact in various ways. Reading client 120

5   runs an annotating web browser, through which the reading user interacts with annotating
server 150. Annotating server 150 receives a reading request for the posted electronic
message associated with a marked electronic page from the reading user via reading client
120 and network 140. Then, annotating server 150 delivers the posted electronic message
for display in a page environment corresponding to the marked electronic page to the

10 reading user via network 140 and reading client 120. Reading client 120 displays the
posted electronic message to the reading user by displaying the posted electronic message
in the page environment within the annotating web browser.

In a further embodiment, annotating server 150 sends the marked
electronic page for display in a page environment to the reading user via network 140 and

15 reading client 120. Reading client 120 displays the marked electronic page to the reading
user by displaying the marked electronic page in the page environment within the
annotating web browser. In another embodiment, annotating server 150 transmits a
marked page environment corresponding to the marked electronic page to the reading
user. Reading client 120 displays the marked page environment to the reading user by

20 displaying the marked page environment within the annotating web browser.
Additionally, annotating server 120 sends the marked electronic page for display in the
marked page environment to the reading user via network 140 and reading client 120.
Reading client 120 displays the marked electronic page to the reading user by displaying
the marked electronic page in the marked page environment within the annotating web

25 browser.

The annotating server 150 can send message board data corresponding to
the marked electronic page for display in a message board to the reading user via network
140 and reading client 120. Reading client 120 displays the message board data to the
reading user by displaying the message board data in the message board within the

30 annotating web browser. In another embodiment, annotating server 150 sends a marked
message board corresponding to the marked electronic page to the reading user. Reading
client 120 displays the marked message board to the reading user by displaying the
marked message board within the annotating web browser. Additionally, annotating

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server 150 transmits message board data corresponding to the marked electronic page for display in the marked message board to the reading user via network 140 and reading client 120. Reading client 120 displays the message board data to the reading user by displaying the message board data in the marked message board within the annotating

5   web browser.

In a specific embodiment, annotating server 150 receives the reading request for the posted electronic message associated with the marked electronic page in a specific manner. First, the reading user clicks on a message title displayed in the marked message board. Then, annotation server 150 inputs this selected message title and

10   delivers as the posted electronic message the message which corresponds with the selected message title to the reading user via network 140 and reading client 120.

In another embodiment, annotating server 150 receives the reading request for the posted electronic message associated with the marked electronic page in another manner. First, the reading user clicks on a user locatable mark displayed in the marked

15   page environment. The annotation server 150 inputs this selected user locatable mark and delivers as the posted electronic message the message which corresponds with the selected user locatable mark to the reading user via network 140 and reading client 120.

When delivering the posted electronic message to the reading user, annotation server 150 sends the marked electronic page with highlighted page text which

20   corresponds to the posted electronic message for display in the page environment to the reading user. In another embodiment, annotation server 150 sends the marked electronic page with a user locatable mark corresponding to the posted electronic message and adjacent to the highlighted page text. In another embodiment, when delivering the posted electronic message to the reading user, annotation server 150 sends the message title

25   corresponding to the posted electronic message, the message author corresponding to the posted electronic message, and the message body corresponding to the posted electronic message for display in the page environment to the reading user. In a specific embodiment, the message title is the highlighted page text.

As depicted in Figure 1D, annotation server 150 can send the message title

30   191, the message author 192, and the message body 193 in a message window 190 which includes message window icons. In a specific embodiment, one message window icon is a close message window icon 194 which allows the reading user to close the message window. In another embodiment, a message window icon is an reply icon 196, which

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allows the reading user to reply to the posted electronic message. In a further embodiment, annotation server 150 sends a message line 197 connecting the user locatable mark of the posted electronic message and the message window of the posted electronic message. In another embodiment, the message window can be moved within

5   the marked page environment, and the message line moves such that the user locatable mark of the posted electronic message and the message window of the posted electronic message remain connected by the message line.

In a specific embodiment, annotating server 150 sends a highlighted message title corresponding to the posted electronic message for display in the message board via network 140 and reading client 120 to the reading user. Reading client 120

10   displays the highlighted message title to the reading user by displaying the highlighted message title in the message board within the annotating web browser. In a further embodiment, annotating server 150 sends the message author of the posted electronic message for display in the message board via network 140 and reading client 120 to the

15   reading user.

In a further embodiment, annotating server 150 can send active web environment data or system data, to the reading user via network 140 and reading client 120, for display in the annotating web browser. Reading client 120 displays the active web environment data to the reading user by displaying the active web environment data

20   in an active web environment within the annotating web browser.

In an embodiment, reading client 120 sends a list of e-mail addresses, an original list of e-mail addresses, to annotating server 150. The annotating server 150 provides the reading user with another list of e-mail addresses or an annotating list of e-mail addresses 206, as shown in Fig. 1G. Annotating server 150 can combine the original

25   lists of e-mail addresses to create the annotating list of e-mail addresses. In another embodiment, reading client 120 provides the reading user with another list of e-mail addresses, an annotating list of e-mail addresses 206, as shown in Fig. 1G. Alternatively, reading client 120 can combine the original lists of e-mail addresses to create the annotating list of e-mail addresses. The reading user may then use the annotating list of

30   e-mail addresses to send an e-mail message. The reading user may send an e-mail message regarding the marked page or the posted electronic message.

The above description with regard to sending a posted electronic message to a reading user is merely an example in terms of specific hardware and software. It

would be recognized that the above can be combined with any of the embodiments described herein as well as others. Accordingly, the above description shown not unduly limit the scope of the claims herein.

During the marking of the requested electronic page with a new electronic
5 message from a marking user, the marking user and annotating server 150 interact in various manners. Marking client 130 runs an annotating web browser, through which the marking user interacts with annotating server 150. First, annotating server 150 receives a marking request to add the new electronic message to the requested electronic page from the marking user via marking client 130 and network 140. Then, annotating server 150
10 inputs the new electronic message from the marking user via marking client 130 and network 140.

Annotating server 150 sends the requested electronic page for display in a page environment to the marking user via network 140 and marking client 130. Marking client 130 displays the requested electronic page by displaying the requested electronic
15 page in the page environment within the annotating browser. Annotating server 150 can transmit a marking page environment corresponding to the requested electronic page to the marking user via network 140 and marking client 130. Marking client 130 displays the marking page environment to the marking user by displaying the marking page environment within the annotating web browser.

20 In a further embodiment, annotating server 150 sends message board data corresponding to the marked electronic page for display in a message board to the marking user via network 140 and marking client 130 in the annotating web browser. Annotating server 150 sends a marking message board corresponding to the requested electronic page to the marking user via network 140 and marking client 130. Marking
25 client 130 displays the marking message board to the marking user by displaying the marking message board within the annotating web browser. Then, annotating server 150 sends message board data corresponding to the requested electronic page for display in the marking message board to the marking user via network 140 and marking client 130.

As shown in Figure 1E, when receiving the marking request to add the
30 new electronic message to the requested electronic page, the marking user clicks the reply icon 196 of a message window 190 of a posted electronic message. The new electronic message posted will be the marking user's reply. In a specific embodiment, the new electronic message title 198 (e.g., the message title of the new electronic message), is a

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derivative of the message title of the posted electronic message, such that the message title of the new electronic message is "Re: <message title of the posted electronic message>." In another embodiment, the general group of the new electronic message, the reply, is the general group of the posted electronic message. Additionally, the message

5   group of the new electronic message, the reply, is the message group of the posted electronic message.

As shown in Fig. 1F, when receiving the marking request to add the new electronic message to the requested electronic page, the marking user selects page text from the requested page in the marking page environment. The marking user can use a

10   pointing device to select the page text. Then, annotating server 150 receives the selected page text 204 from the marking user via marking client 130 and network 140. The location of the selected page text corresponds to where the user locatable mark of the new electronic message will be placed. The selected page text becomes the message title of the new electronic message. After the marking user selects page text, annotation server

15   150 sends an annotation button for display in said marking page environment to said marking user.

As shown in Fig. 1E, annotating server 150 can receive a message body 199 corresponding to the new electronic message. Annotating server 150 can further receive a message title corresponding to the new electronic message, a message group

20   corresponding to the new electronic message, a general group corresponding to the new electronic message from the marking user, or any combination thereof.

Referring again to Fig. 1F, annotation server 150 can further send a message editor window 201 with fields for inputting the message title 202 of the new electronic message, the message group of the new electronic message, the general group

25   of the new electronic message, the message body 203, or the like of the new electronic message. The message editor window can include the selected page text 204, editor window icons (which are the same as the message window icons), or the like. In a specific embodiment, annotating server 150 sends a list of message groups which the reading user can choose from.

30   Annotating server 150 can add a user locatable mark 205, as shown in Fig. 1F, corresponding to the new electronic message to the requested electronic page, thereby producing a marked electronic page. In addition, annotating server 150 transmits the marked electronic page for display in the marking page environment to the marking user

via network 140 and marking client 130. Marking client 130 displays the marked electronic page to the marking user by displaying the marked electronic page in the marking page environment within the annotating browser.

After adding the user locatable mark to the requested electronic page, annotating server 150 sends the message title corresponding to the new electronic message, the message author corresponding to the new electronic message, and the message body corresponding to the new electronic message for display in the marking page environment to the marking user. In a further embodiment, annotation server 150 sends the message title of the new electronic message, the message author of the new electronic message, and the message body of the new electronic message in a message window which includes message window icons. In a specific embodiment, one message window icon is a close message window icon which allows the reading user to close the message window. In another embodiment, a message window icon is an reply icon, which allows the reading user to reply to the new electronic message. In a further embodiment, annotation server 150 sends a message line connecting the user locatable mark of the new electronic message and the message window of the new electronic message. In another embodiment, the message window can be moved within the marked page environment, and the message line moves such that the user locatable mark of the new electronic message and the message window of the new electronic message remain connected by the message line.

In a further embodiment, annotating server 150 sends active web environment data to the marking user via network 140 and marking client 130, for display in the annotating web browser. Marking client 130 displays the active web environment data to the marking user by displaying the active web environment data in an active web environment within the annotating web browser.

In another embodiment, annotating server 150 transmits a marking active web environment corresponding to the marked electronic page to the marking user via network 140 and marking client 120. Marking client 130 displays the marking active web environment to the marking user by displaying the marking active web environment within the annotating web browser. Then, annotating server 150 sends the new electronic message for display in the marking active web environment to the marking user via network 140 and marking client 130. Marking client 130 displays the new electronic message to the marking user by displaying the new electronic message in the marking

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active web environment within the annotating web browser. In a specific embodiment,
when sending the new electronic message for display in the marking active web
environment to the marking user, annotation server 150 sends the message title
corresponding to the new electronic message, the message author corresponding to the

5   new electronic message, the highlighted page text corresponding to the new electronic
message, and the message body corresponding to the new electronic message for display
in the marking active web environment to the marking user. In another embodiment, a
message window icon is an open message icon which allows the marking user to open the
new electronic message in the marking active web environment.

10   In a specific embodiment, annotating server 150 sends a highlighted new
electronic message title corresponding to the new electronic message for display in the
marking message board via network 140 and marking client 130 to the marking user.
Marking client 130 displays the highlighted new electronic message title to the marking
user by displaying the highlighted new electronic message in the marking message board

15   within the annotating web browser. In a further embodiment, annotating server 150 sends
the message author of the new electronic message for display in the marking message
board via network 140 and marking client 130 to the marking user.

                In a further embodiment, annotating server 150 sends system data to the
marking user via network 140 and marking client 130 for display in the annotating web

20   browser. Marking client 130 displays the system data to the marking user by displaying
the system data in a system board within the annotating web browser.

                Marking client 130 can send a list of e-mail addresses, an original list of e-
mail addresses, to annotating server 150. In a specific embodiment, annotating server 150
provides the marking user with another list of e-mail addresses, an annotating list of e-

25   mail addresses 206, as shown in Fig. 1G. Annotating server 150 can combine the original
lists of e-mail addresses to create the annotating list of e-mail addresses. In another
embodiment, marking client 130 provides the marking user with another list of e-mail
addresses, an annotating list of e-mail addresses 206, as shown in Fig. 1G. Alternatively,
marking client 130 can combine the original lists of e-mail addresses to create the

30   annotating list of e-mail addresses. The marking user may use the annotating list of e-
mail addresses to send an e-mail message. The marking user may send an e-mail message
regarding the marked page. The marking user may send an e-mail message regarding a
posted electronic message or the new electronic message.

The above description with regard to marking the requested electronic page with a new electronic message from a marking user is merely an example in terms of specific hardware and software. It would be recognized that the above can be combined with any of the embodiments described herein as well as others. Accordingly, the above

5   description shown not unduly limit the scope of the claims herein.

Fig. 2 is a block diagram of an annotating server 150 which implements the present invention according to an embodiment of the present invention. Annotating server 150 has an URL module 210, a compare module 215, a storage module 217, an electronic page module 220, a marked alarm module 225, a request module 230, a page

10   environment module 235, a message board module 240, a message board data module 245, an active web environment module 250, and a message module 255.

During the transmitting of a requested electronic page to a browsing user, the browsing user and annotating server 150 interact in a specific manner. URL module 210 receives a requested URL address from the browsing user via browsing client 110

15   and network 140. Compare module 215 retrieves a marked URL address from storage module 217 and compares the requested URL address to this retrieved marked URL address.

If the requested URL address does not equal the marked URL address, browsing client 110 retrieves the requested electronic page from network 140, and,

20   subsequently, displays the requested electronic page within the annotating web browser. The requested electronic page is an unmarked electronic page, such as the unmarked electronic page 166, illustrated in Figure 1B. In another embodiment, if the requested URL address does not equal the marked URL address, compare module 215 makes electronic page module 220 retrieve an unmarked electronic page (EP) whose URL

25   address equals the requested URL address from network 140 and deliver the unmarked electronic page to the browsing user via network 140 and browsing client 110.

If the requested URL address does equal the marked URL address, compare module 215 makes electronic page module 220 retrieve a marked electronic page whose URL address equals the requested URL address from storage module 217 and

30   send the marked electronic page to the browsing user. In addition, if the requested URL address does equal the marked URL address, compare module 215 makes marked alarm module 225 retrieve a marked alarm corresponding to the marked electronic page from storage module 217 and transmit the marked alarm to the browsing user.

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In a specific embodiment, if the browsing user clicks on the marked alarm, request module 230 receives a browsing request for a marked page environment (PE) corresponding to the marked electronic page from the browsing user via browsing client 110 and network 140. Request module 230 makes page environment module 235

5   transmit the marked page environment to the browsing user via network 140 and browsing client 110. Additionally, electronic page module 220 receives the browsing request and sends the marked electronic page for display in the marked page environment to the browsing user.

In another embodiment, if the browsing user clicks on the marked alarm,

10   request module 230 receives a browsing request for a marked message board (MB) corresponding to the marked electronic page from the browsing user via browsing client 110 and network 140. Request module 230 makes message board module 240 retrieve the marked message board from storage module 217 and transmit the marked message board to the browsing user via network 140 and browsing client 110. Additionally,

15   request module 230 makes message board data module 245 retrieve a message board data corresponding to the marked electronic page and transmits the message board data for display in the marked message board to the browsing user.

In a further embodiment, if the browsing user clicks on the marked alarm, request module 230 receives a browsing request for a marked active web environment

20   (AWE) corresponding to the marked electronic page from the browsing user via network 140 and browsing client 110. Then, request module 230 makes active web environment module 250 send the marked active web environment to the browsing user via network 140 and browsing client 110.

During the sending of a posted electronic message to a reading user, the

25   reading user and annotating server 150 interact in various manners. Electronic page module 220, request module 230, and message module 255 receive a reading request from the reading user for a posted electronic message associated with a marked electronic page from the reading user via reading client 120 and network 140. Message module 255 retrieves the posted electronic message from storage module 217 and transmits the posted

30   electronic message to the reading user via network 140 and reading client 120.

In a further embodiment, request module 230 makes page environment module 235 transmit a marked page environment corresponding to the marked electronic page to the reading user. Additionally, electronic page module 220 retrieves the marked

25

electronic page from storage module 217 and transmits this marked electronic page to the reading user.

In a further embodiment, request module 230 makes message board module 240 retrieve a marked message board corresponding to the marked electronic

5   page from storage module 217 and send the marked message board to the reading user. Additionally, request module 230 makes message board data module 245 retrieve a message board data corresponding to the marked electronic page for display in the marked message board from storage module 217 and transmit the message board data to the reading user.

10   In further embodiment, request module 230 makes active web environment module 250 transmits a marked active web environment corresponding to the marked electronic page to the reading user. Message module 255 retrieves the posted electronic message from storage module 217 and send the posted electronic message for display in the marked active web environment to the reading user.

15   During the marking of the requested electronic page with a new electronic message from a marking user, the marking user and annotating server 150 interact in a specific manner. Request module 230 makes page environment module 235 transmit a marking page environment corresponding to the requested electronic page to the marking user via network 140 and marking client 130. Then, request module makes message

20   board module 240 retrieve a marking message board corresponding to the requested electronic page from storage module 217 and send the marking message board to the marking user. Next, request module 230, electronic page module 220, and message module 255 receive a marking request to add the new electronic message to the requested electronic page from the marking user via marking client 130 and network 140. Finally,

25   message module 255 inputs the new electronic message from the marking user and stores the new electronic message in storage module 217.

In a further embodiment, electronic page module 220 retrieves the requested electronic page from storage module 217 and sends the requested electronic page for display in the marking page environment to the marking user via network 140

30   and marking client 130. In another embodiment, request module 230 makes message board data module 245 retrieve message board data a corresponding to the requested electronic page for display in the marking message board from storage module 217 and send the message board data to the marking user.

In further embodiment, request module 230 makes active web environment module 250 transmit a marking active web environment corresponding to the requested electronic page which has been marked with a new electronic message to the marking user via network 140 and marking client 120. Then, message module 255 retrieves the

5   new electronic message from storage module 217 for display in the marking active web environment and sends the new electronic message to the marking user.

Fig. 3 illustrates a system block diagram of one simplified computer system 300 used to execute the software of annotating server 150 according to an embodiment of the present invention. Computer system 300 includes subsystems such as

10   a central processor 310, a system memory 320, an I/O controller 330, a fixed disk 340, and a network interface 350. Computer system 300 may also include a display 360, a display adapter 365, a keyboard 370, a removable disk 380, and a pointing device 390. Other computer systems suitable for use with the present invention may include additional or fewer subsystems. For example, another computer system could include

15   more than one processor 310 (i.e., a multi-processor system) or a cache memory as part of system memory 320.

Arrows such as 395 represent the system bus architecture of computer system 300. However, these arrows are illustrative of any interconnection scheme serving to link the subsystems. For example, a local bus could be utilized to connect the

20   central processor to the system memory and display adapter. Computer system 300 is but an example of a computer system suitable for use with the present invention. Other configurations of subsystems suitable for use with the present invention will be readily apparent to one of ordinary skill in the art.

Fig. 4 is a simplified block diagram of the Internet 400 to which a

25   annotating server 150 can attach to a user client, such as browsing client 110, reading client 120, or marking client 130 according to an embodiment of the present invention. In the example shown, a number of Internet provider networks 410 provide connection to local access providers 420, which then provide access to network service providers 430. The network service providers then connect to network access providers 440, which, in

30   turn, are connected to the backbone service 450. It should be understood that other configurations of the Internet or other networks could be used with the present invention.

Although the above has been described in terms of specific software and hardware, other variations can exist. For example, functionality described above can be

further integrated or separated using software. The functionality can also be combined with hardware. A combination of hardware and software can be used. Accordingly, the present invention is not to be limited by specific embodiments noted above.

The invention has been explained with reference to specific embodiments. Other embodiments will be apparent to those of ordinary skill in the art. It is therefore not intended that this invention be limited, except as indicated by the appended claims.

WHAT IS CLAIMED IS:

1   1.   A system for annotating an electronic page on a display of a

2   networked computer, comprising:

3   a transmitting module configured to transmit a requested electronic page to

4   a browsing user;

5   a sending module configured to send a posted electronic message related

6   to said requested electronic page to a reading user; and

7   a marking module configured to mark said requested electronic page with

8   a new electronic message from a marking user.

1   2.   The system of claim 1 wherein said transmitting module

2   comprises:

3   a receiving module configured to receive a requested uniform resource

4   locator (URL) address of said requested electronic page from said browsing user;

5   a comparing module configured to compare said requested URL address to

6   a marked URL address; and

7   a sending module configured to send a marked electronic page

8   corresponding to said marked URL address to said browsing user if said requested URL

9   address equals said marked URL address.

1   3.   The system of claim 2 further comprising a transmitting module

2   configured to transmit a marked alarm corresponding to said marked electronic page to

3   said browsing user if said requested URL address equals said marked URL address.

1   4.   The system of claim 2 wherein said sending module configured to

2   send the marked electronic page sends message board data corresponding to said marked

3   electronic page, active web environment data, or system data for display in a page

4   environment to said browsing user.

1   5.   The system of claim 1 wherein said sending module comprises:

2   a receiving module configured to receive a reading request for said posted

3   electronic message associated with a marked electronic page from said reading user; and

4   a delivering module configured to deliver said posted electronic message

5   for display in a marked page environment corresponding to said marked electronic page

6   to said reading user.

1   6.   The system of claim 5 wherein said delivering module further

2   comprises a sending module configured to send a highlighted message title corresponding

3   to said posted electronic message for display in a message board to said reading user.

1   7.   The system of claim 5 wherein said delivering module further

2   comprises a sending module configured to send active web environment data, system

3   data, an original list of e-mail addresses, or an annotating list of e-mail addresses for

4   display in an active web environment to said reading user.

1   8.   The system of claim 1 wherein said marking module comprises:

2   a receiving module configured to receive a marking request to add said

3   new electronic message to said requested electronic page from said marking user; and

4   an inputting module configured to input said new electronic message from

5   said marking user.

1   9.   The system of claim 8 wherein said inputting module further

2   comprises:

3   an adding module configured to add a user locatable mark corresponding

4   to said new electronic message to said requested electronic page, thereby producing a

5   marked electronic page; and

6   a transmitting module configured to transmit said marked electronic page

7   for display in a page environment to said marking user.

1   10.   A system for transferring information from a first server to a client

2   comprising:

3   a combining module configured to combine information directed to an

4   electronic page from a first server with information directed to a user locatable mark

5   related to the electronic page from a second server at a client;

6   wherein the information directed to the user locatable mark comprises a
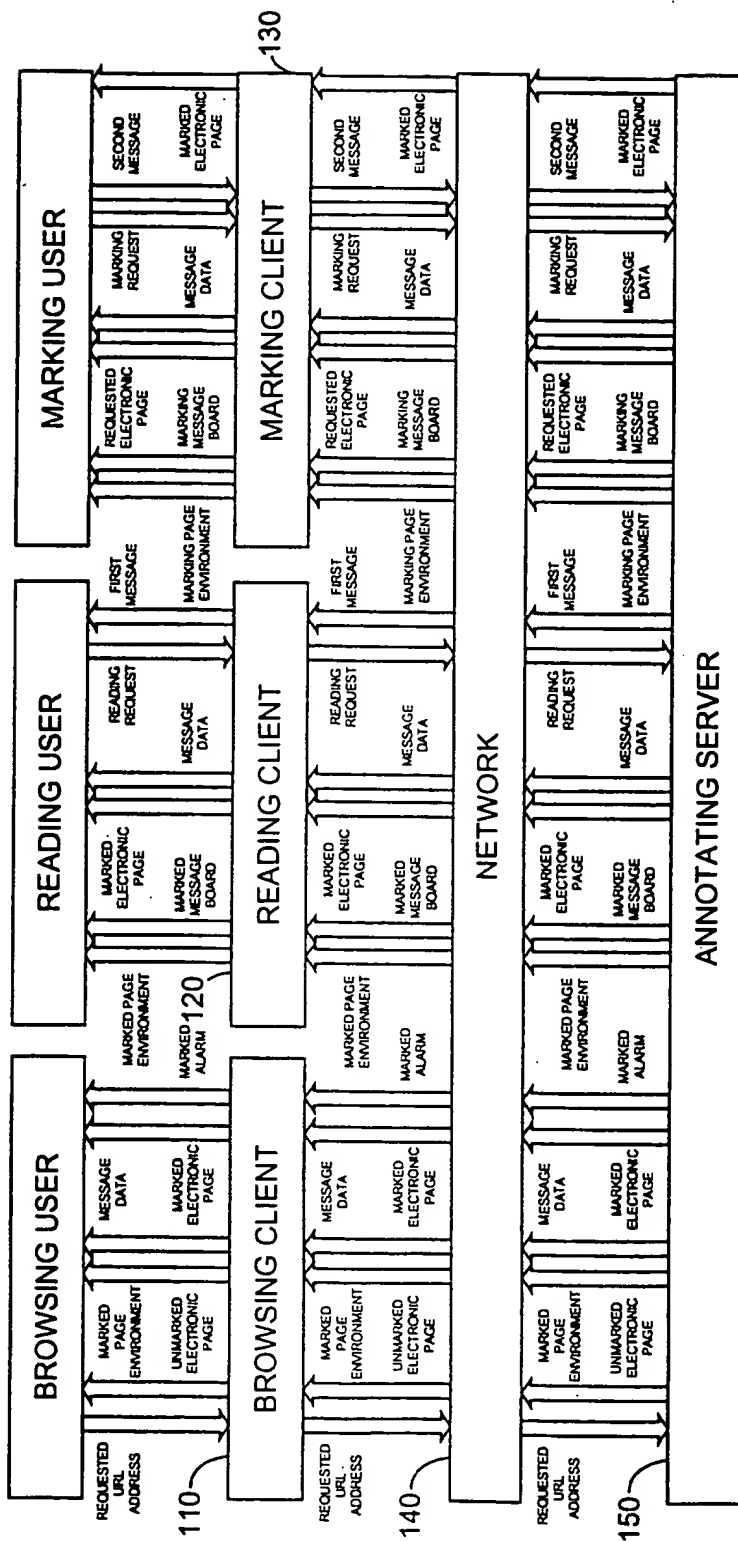
7   message from the second server.

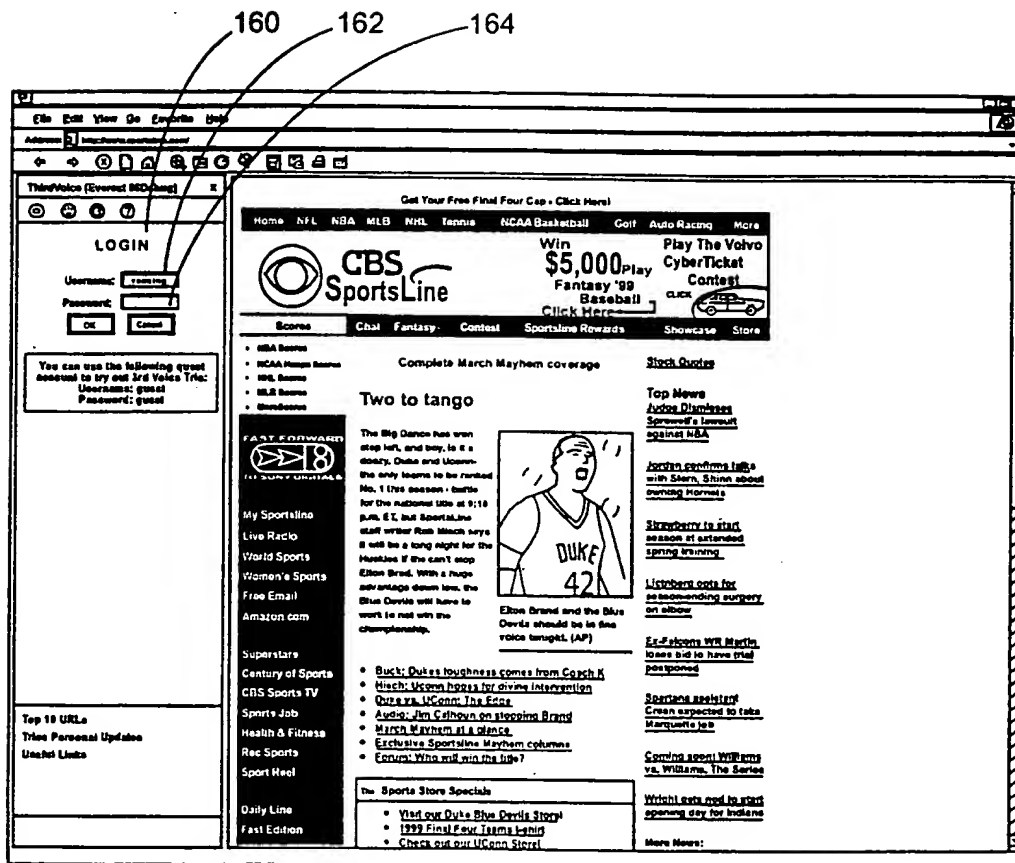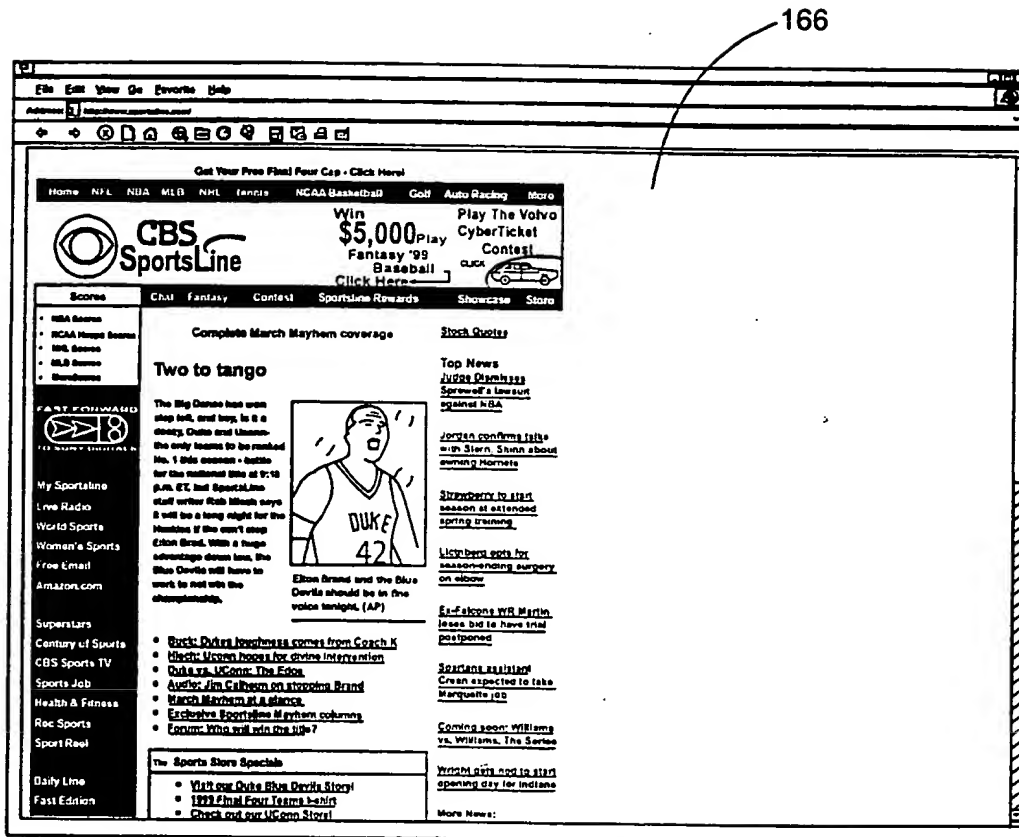1   11.   A method for annotating an electronic page on a display of a
2   networked computer, comprising:
3   transmitting a requested electronic page to a browsing user;
4   sending a posted electronic message related to said requested electronic
5   page to a reading user; and
6   marking said requested electronic page with a new electronic message
7   from a marking user.

1   12.   The method of claim 11 wherein said transmitting comprises:
2   receiving a requested uniform resource locator (URL) address of said
3   requested electronic page from said browsing user;
4   comparing said requested URL address to a marked URL address; and
5   sending a marked electronic page corresponding to said marked URL
6   address to said browsing user if said requested URL address equals said marked URL
7   address.

1   13.   The method of claim 12 wherein said sending the marked
2   electronic page further comprises sending message board data, active web environment
3   data, or system data for display in a page environment to said browsing user.

1   14.   The method of claim 12 wherein said sending the marked
2   electronic page comprises receiving a reading request for said posted electronic message
3   associated with a marked electronic page from said reading user; and
4   delivering said posted electronic message for display in a marked page
5   environment corresponding to said marked electronic page to said reading user.

1   15.   The method of claim 14 further comprising sending said marked
2   electronic page for display in a page environment to said reading user.

1   16.   The method of claim 11 wherein said marking comprises:
2   receiving a marking request to add said new electronic message to said
3   requested electronic page from said marking user; and
4   inputting said new electronic message from said marking user.

1   17.   The method of claim 16 further comprising transmitting message
2   board data corresponding to said requested electronic page for display in a message board
3   to said marking user.

1   18.   The method of claim 16 wherein said receiving comprises
2   receiving a selected page text corresponding to said requested electronic page from said
3   marking user.

1   19.   The method of claim 16 wherein said inputting further comprises
2   receiving a message title, message group, message body, or general group corresponding
3   to said new electronic message from said marking user.

1   20.   The method of claim 16 wherein said inputting further comprises:
2   adding a user locatable mark corresponding to said new electronic message
3   to said requested electronic page, thereby producing a marked electronic page; and
4   transmitting said marked electronic page for display in a page environment
5   to said marking user.

1   21.   The method of claim 16 wherein said inputting further comprises
2   sending active web environment data for display in an active web environment to said
3   marking user.

1   22.   A method for transferring information from a first server to a client
2   comprising;
3   combining information directed to an electronic page from a first server
4   with information directed to a user locatable mark related to the electronic page from a
5   second server at a client;
6   wherein the information directed to the user locatable mark comprises a
7   message from the second server.

FIG. 1

160   162   164

FIG. 1A

FIG. 1B

FIG. 1C

189   188   186   182   185   187   176   192   180   191   193

183   184   197 181   178   194   196   190

FIG. 1D

FIG. 1E

FIG. 1F

206
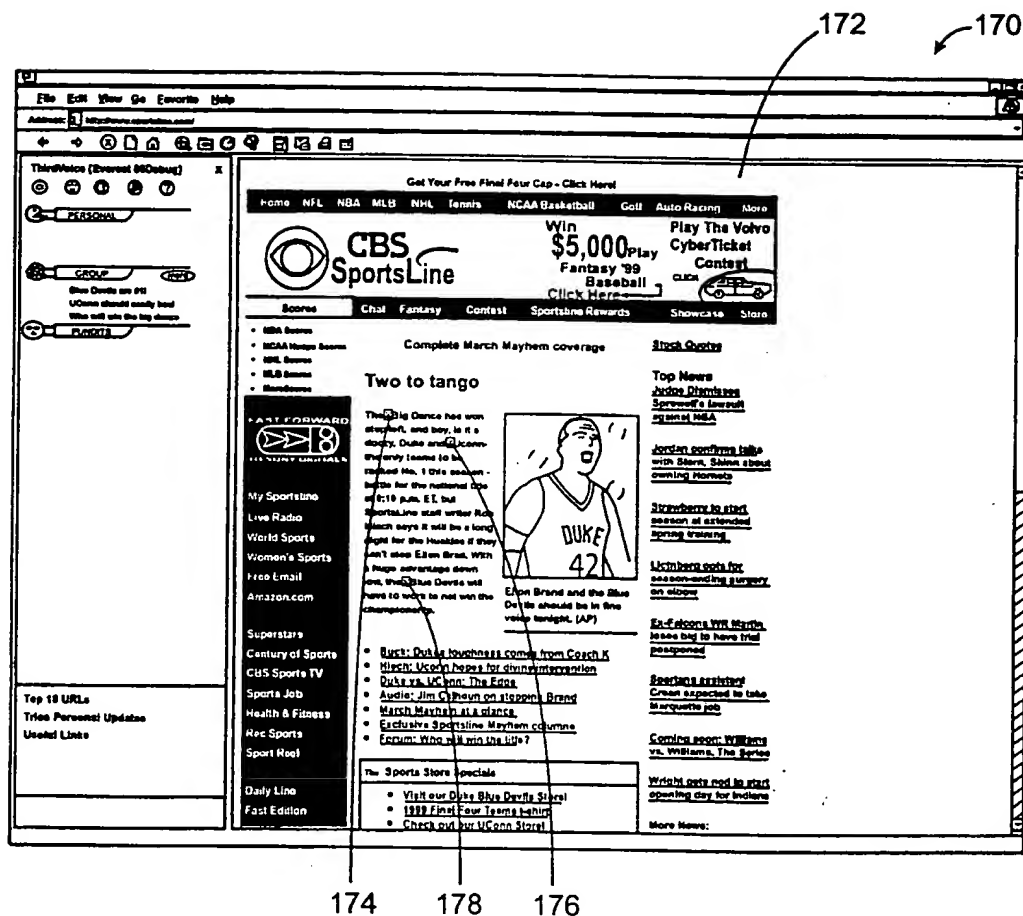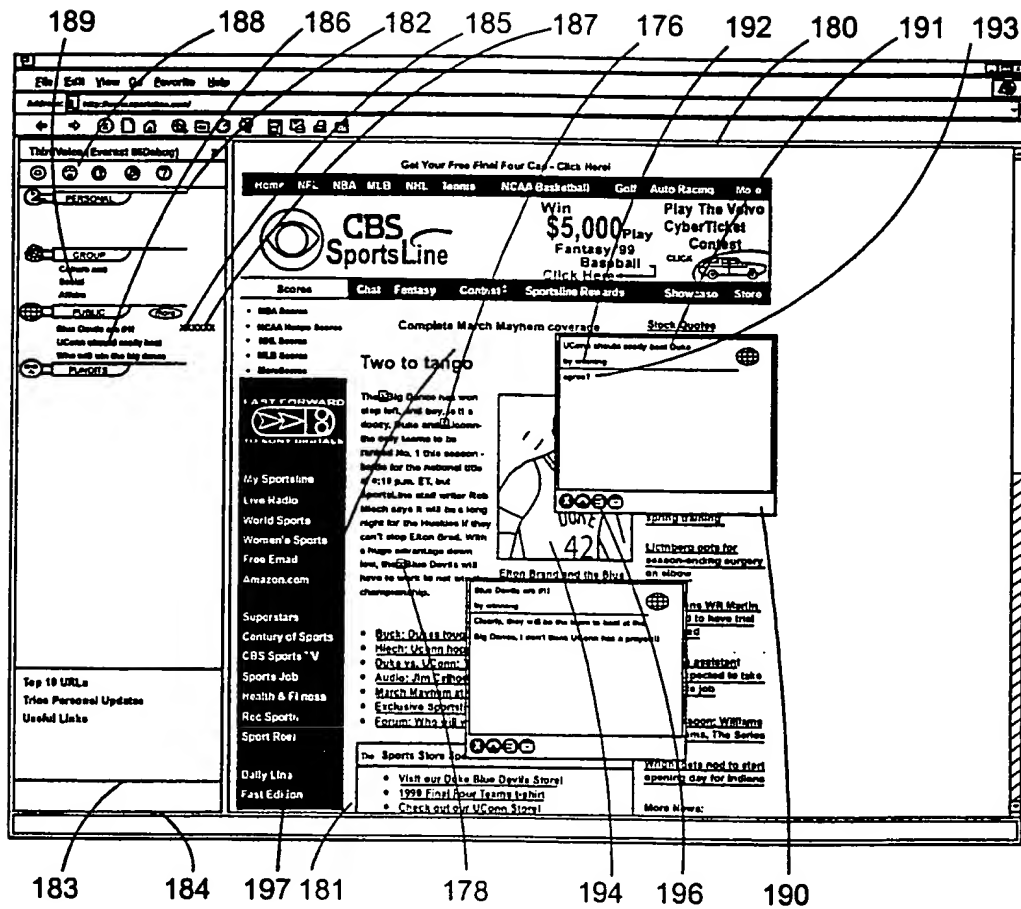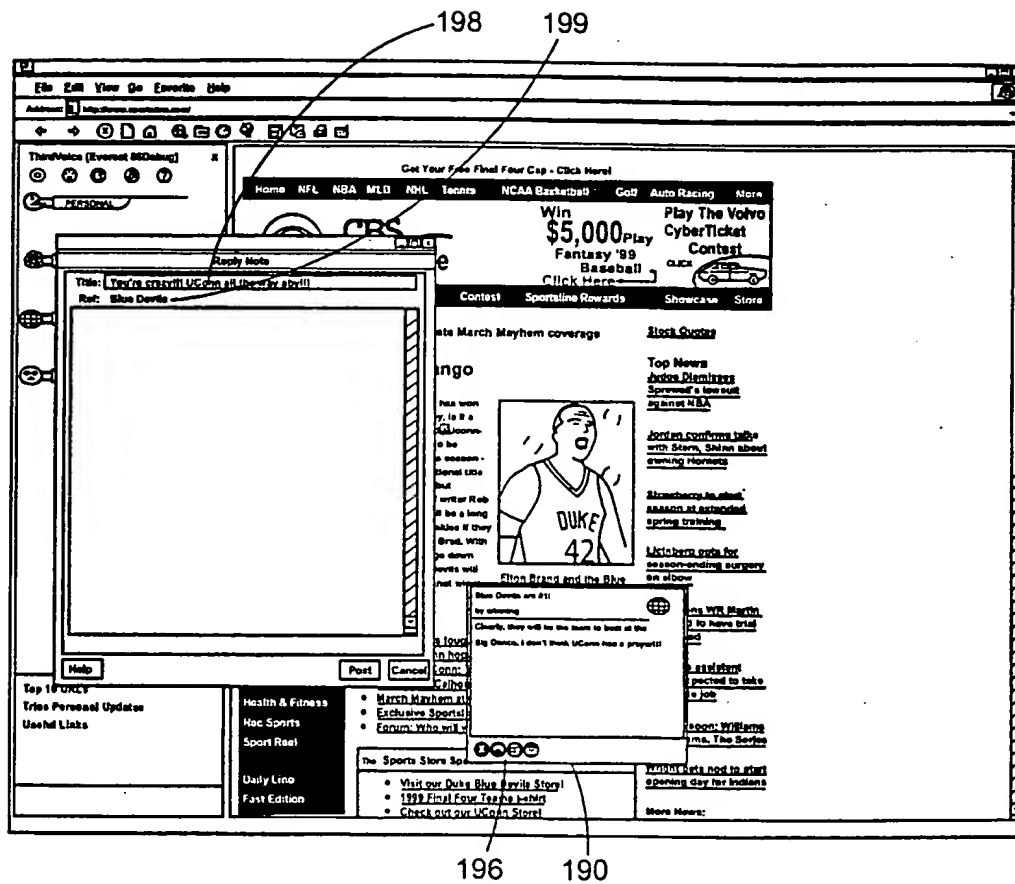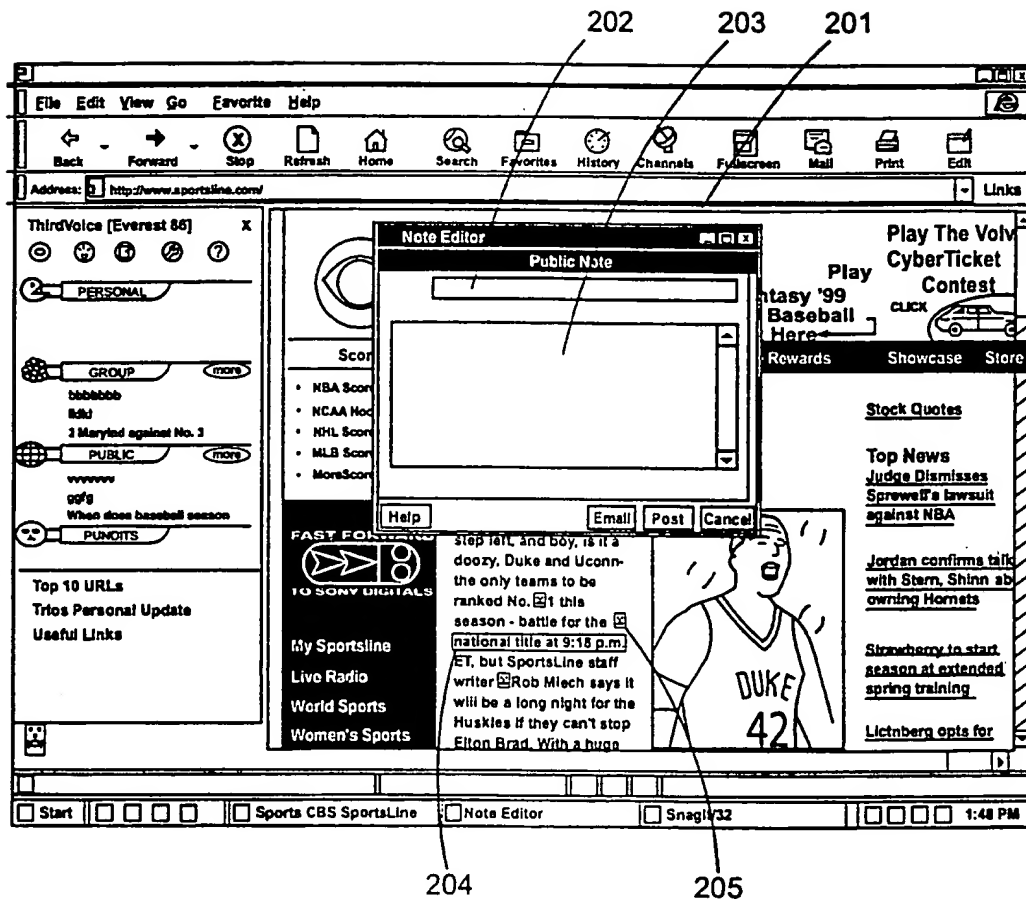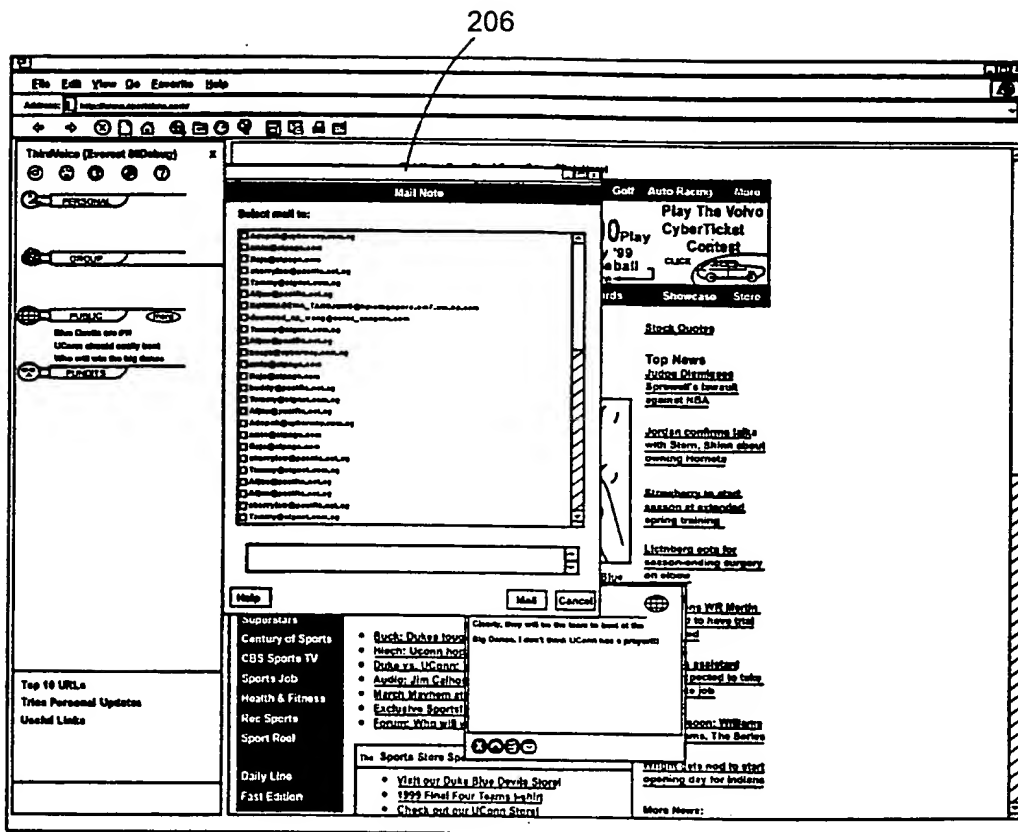
FIG. 1G
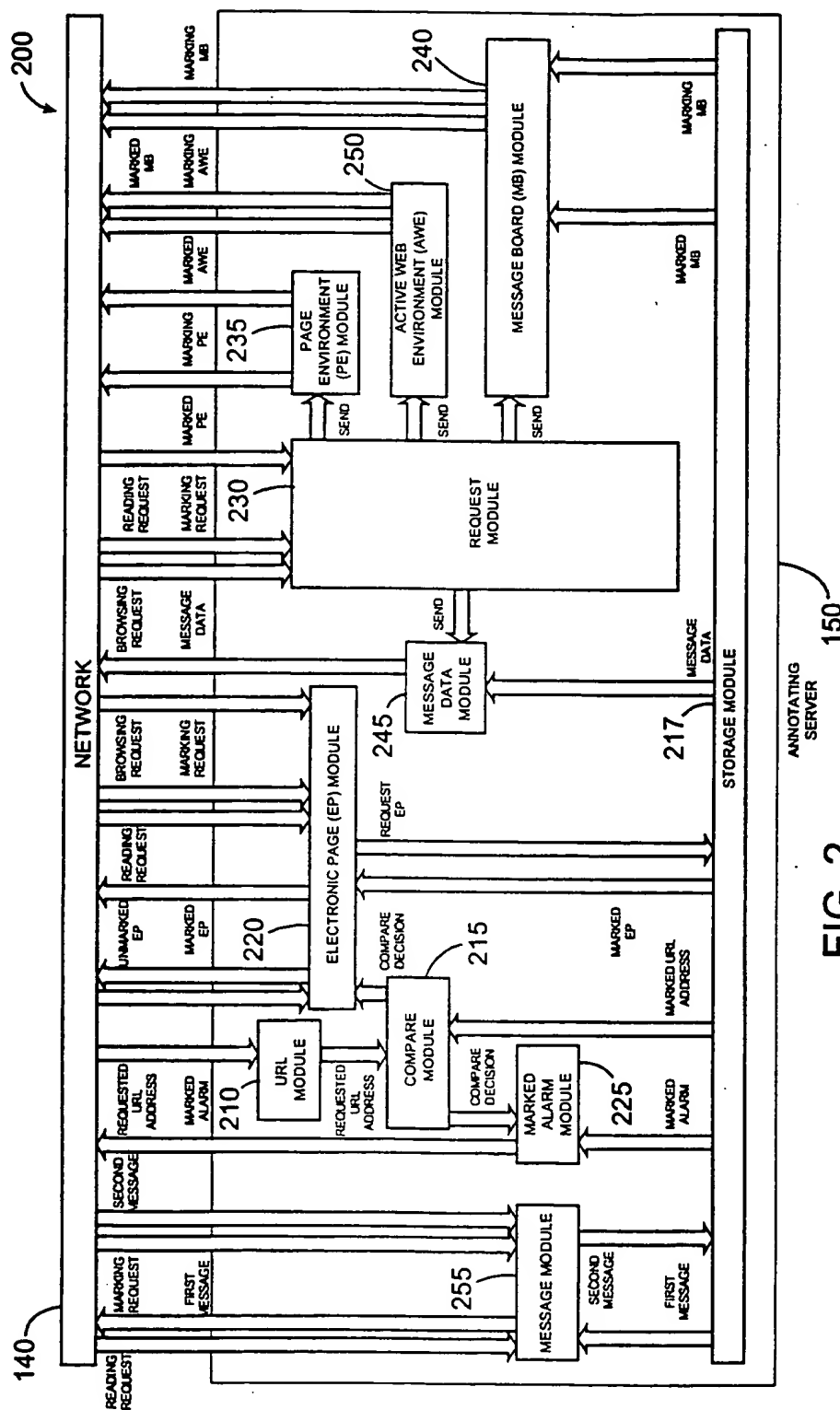
FIG. 2
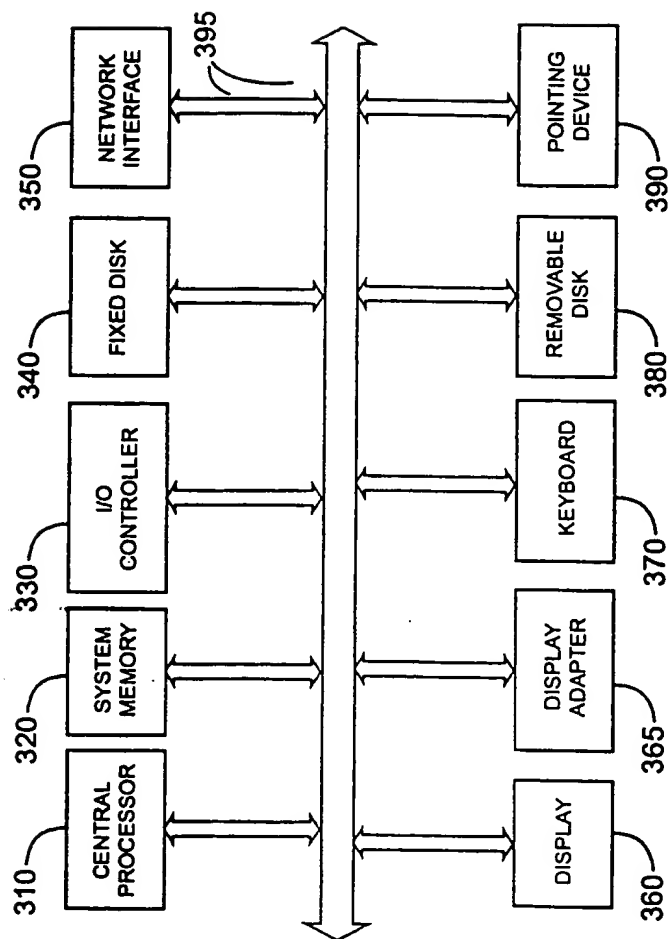
FIG. 3
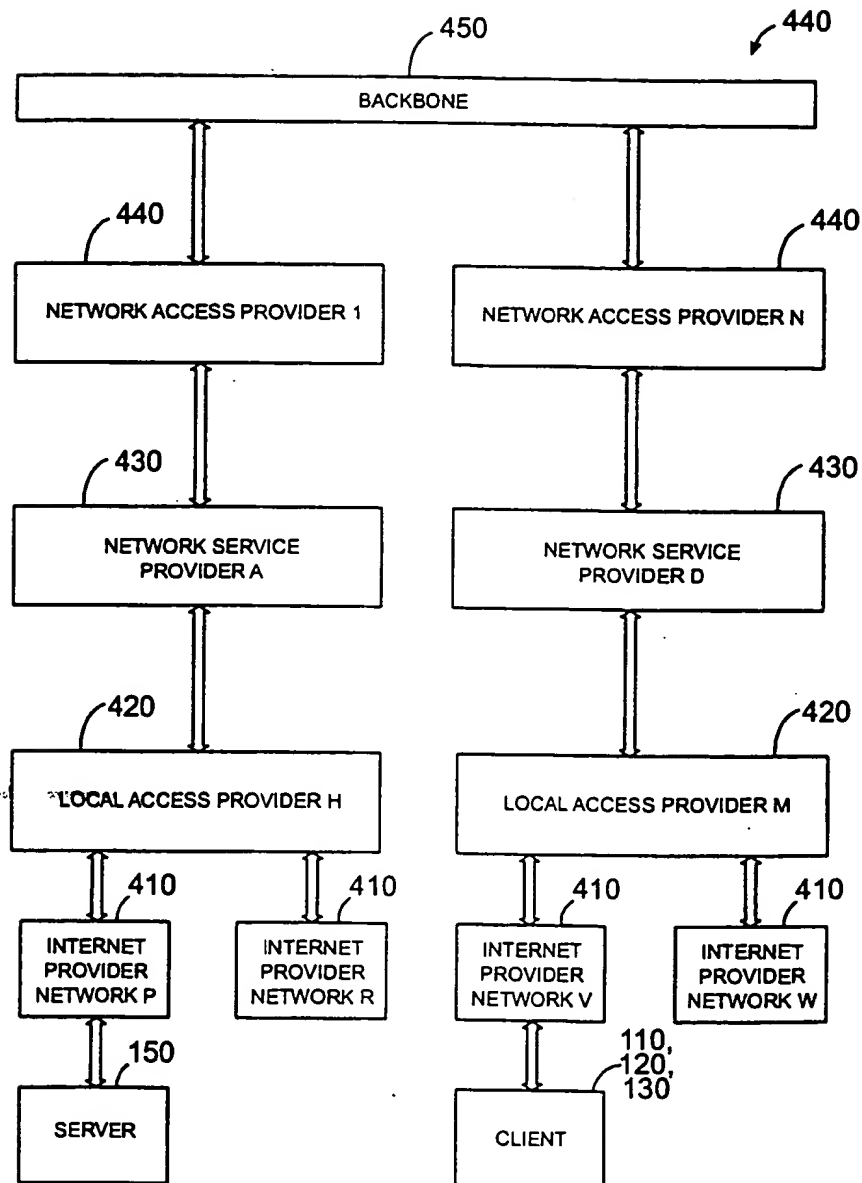
FIG. 4
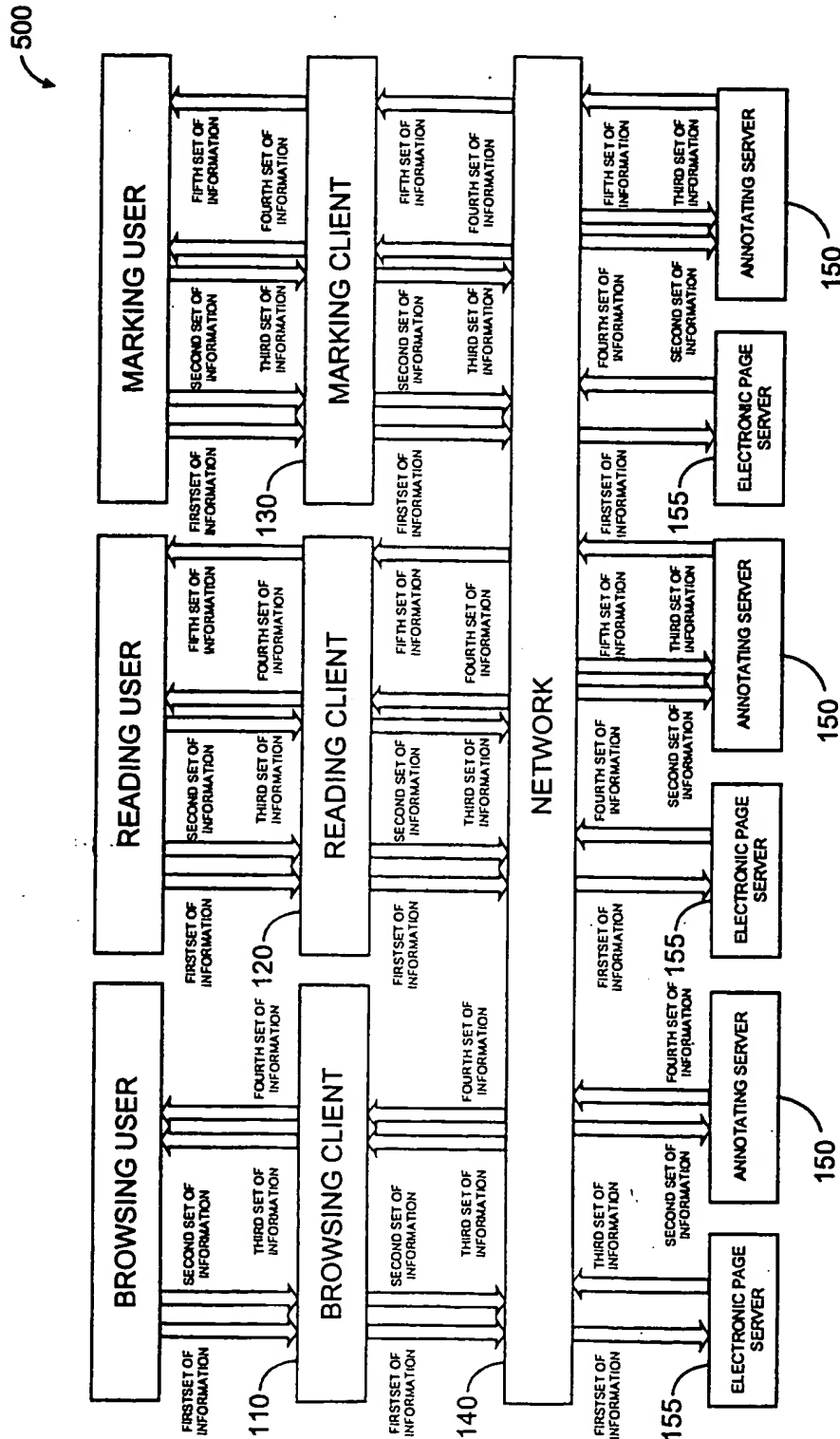
FIG. 5
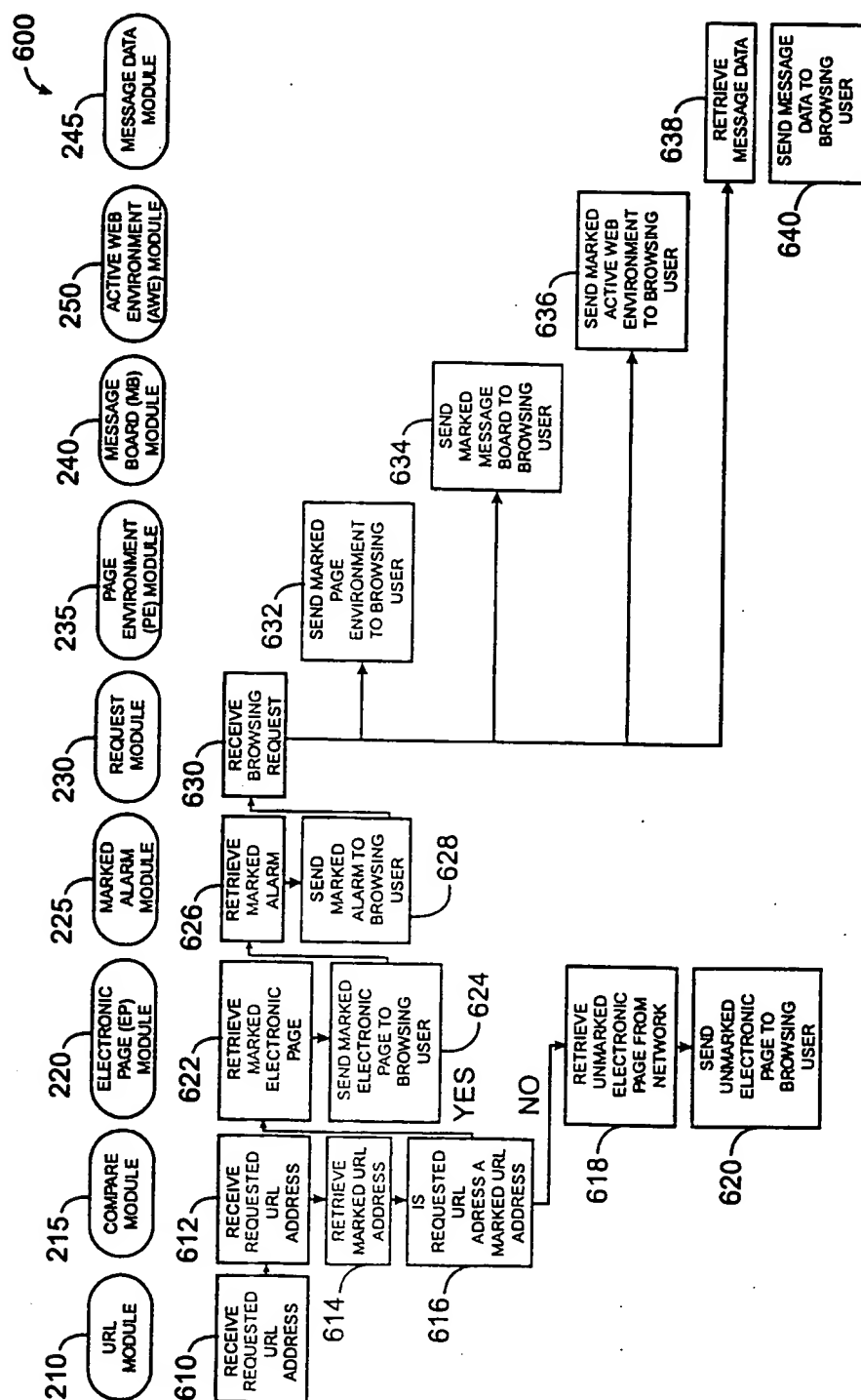
FIG. 6A
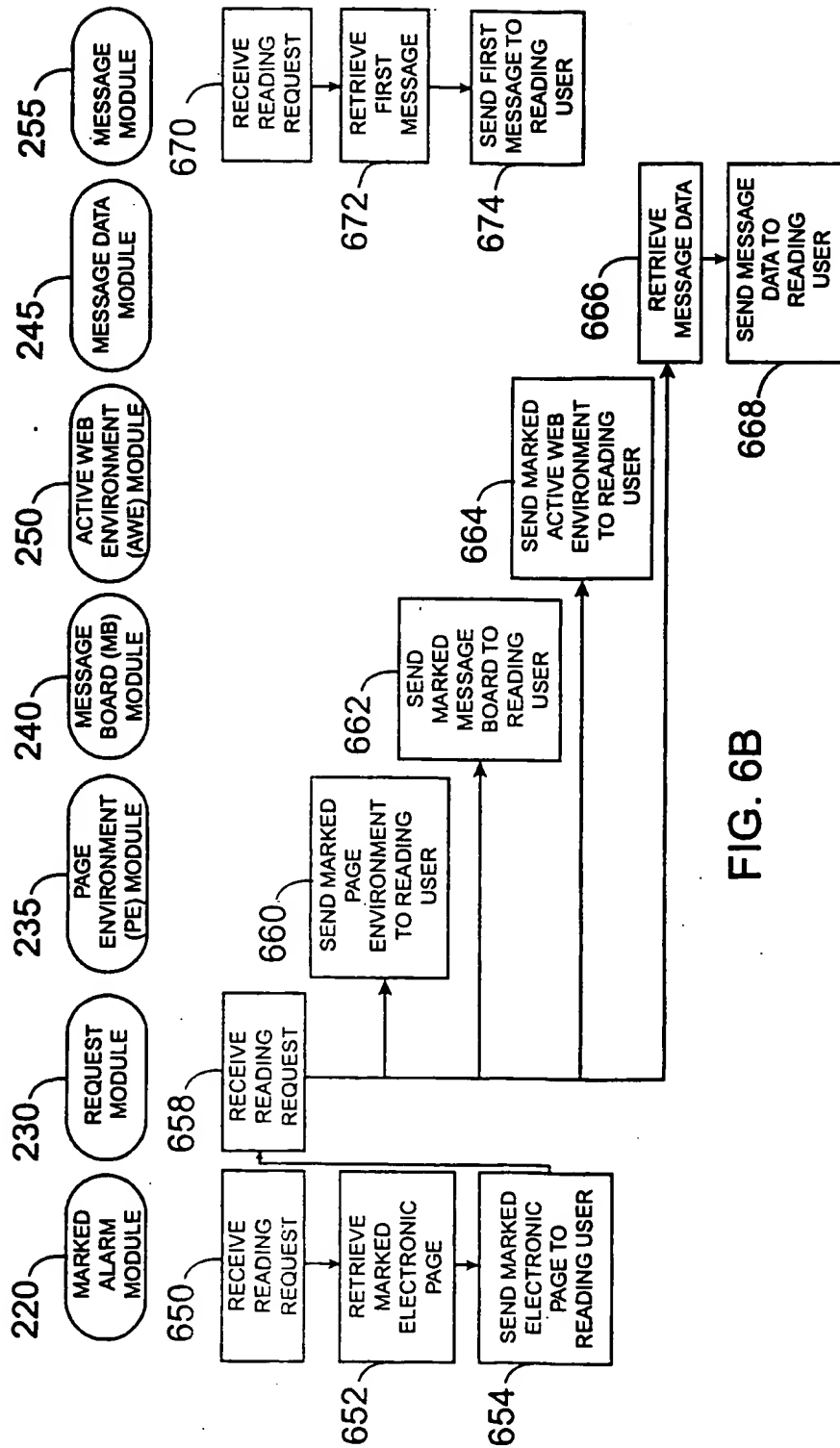
FIG. 6B
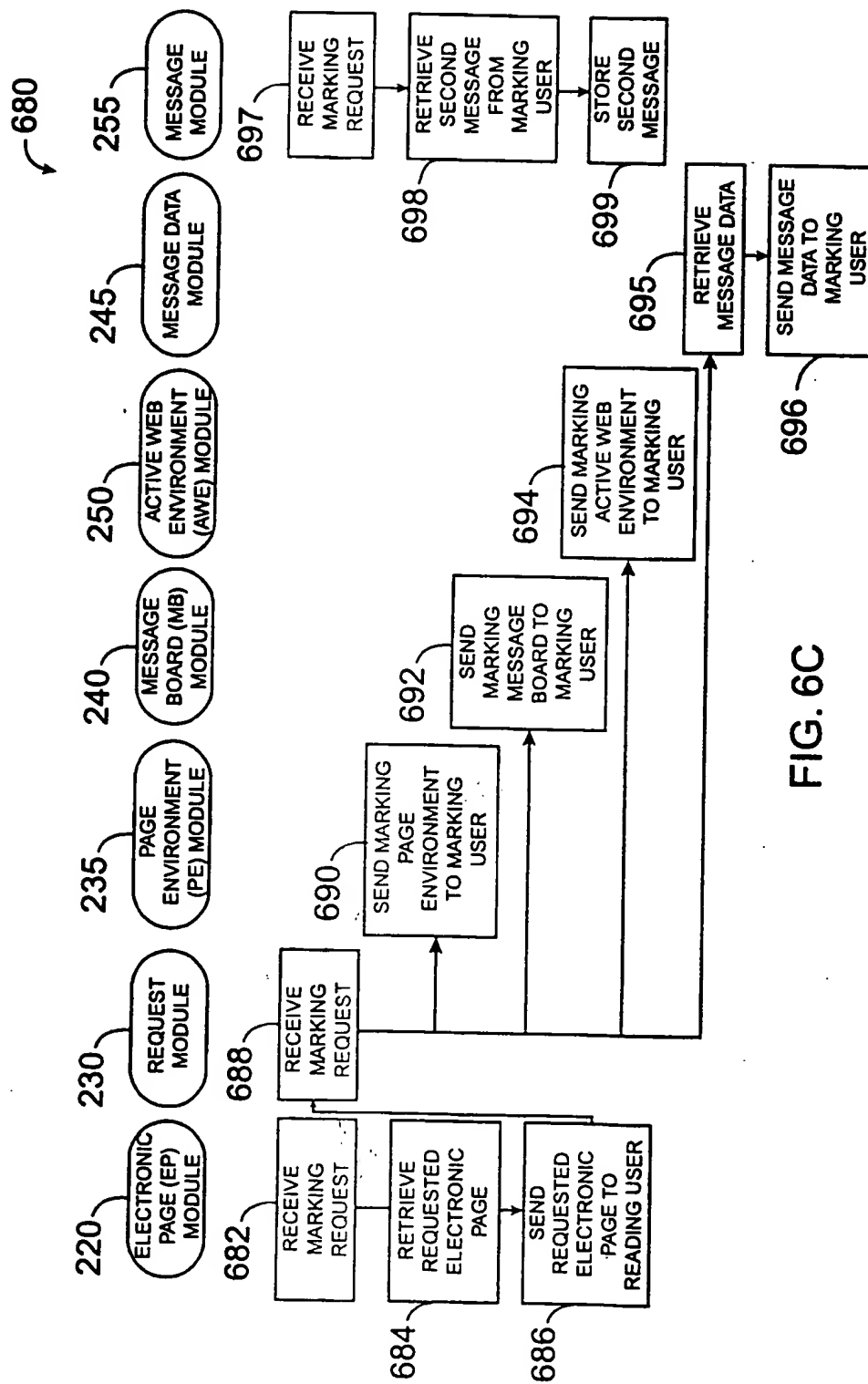
FIG. 6C

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G06F 13/00
US CL : 707/512; 709/203, 206

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 707/512; 709/203, 206

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WEST, USPAT, EPAB, JPAB, IBM TDB, DERWENT, INTERNET SEARCH

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,796,393 A (MACNAUGHTON et al.) 18 August 1998, col. 7, lines 34-47, col. 21, lines 50-58	1-22
Y	ROSCHEISEN, M. Shared Web Annotations As a Platform for Third-Party Value-Added Information Providers: Architecture, Protocols, and Usage Examples, updated April 1995	1-22

☐ Further documents are listed in the continuation of Box C.   ☐ See patent family annex.

	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance		
"E"	earlier document published on or after the international filing date	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed	"&"	document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
11 JULY 2000	04 AUG 2000

Name and mailing address of the ISA/US	Authorized officer
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